

NOTES AND DESCRIPTIONS OF NEW SPECIES  
OF SCARABÆIDÆ FROM WESTERN  
NORTH AMERICA

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## SCARABÆIDÆ

The genus *Aegialia* has a greater number of species on the Pacific Slope than has been supposed, eight in number. *Aegialia rufescens* Horn, I have taken on Mount Rainier, Washington, as well as in the high Sierra Nevada mountains. *A. cylindrica* (Esch.) is found in Alaska near the seacoast, but farther south only along cold-water streams. It extends as far south as San Francisco Bay, and in the Northwest reaches into Idaho and farther east. *A. lacustris* Lec. has been found at Banff, Alberta, and in the eastern part of Nevada County California. *A. blanchardi* Horn or a species so close to it that I cannot separate it, has been taken at Puyallup, Washington; Newport, Oregon, and along the Smith River in Del Norte County, California. *A. conferta* Horn is a streamside species widely distributed from Washington to Ensenada, Lower California. *A. latispina* Lec. is found along many stream margins from Siskiyou to Los Angeles County, and also at Prescott, Arizona. *A. crassa* Lec., our commonest species, is confined to the coast sand dunes and ranges at least from northern Oregon to Carmel, California. *A. pusilla* Horn was described as from Washington, probably Spokane. This list is thus greater by two than that given by Darlington<sup>1</sup> for the New England States.

In the genus *Aphodius* there is a group of large species which are more or less confined to the Pacific Slope and which are quite peculiar both structurally and biologically. To my mind, they form a definite group, but in Horn's Monograph,<sup>2</sup> three are placed in his Group G and two in Group M, the latter separated from the former by having the fimbriæ at the apex of the hind tibiæ unequal rather than equal. This character, while convenient for the separation of species, often widely removes from one another, as in this case, species which are undoubtedly of the same stock. While not wishing to destroy the usefulness

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<sup>1</sup> *Psyche* 34 (April 1927), p. 99.

<sup>2</sup> *Trans. Am. Entom. Soc.* 14 (1887), pp. 23-25.

of Horn's valuable tables, I think that it is best in this case to study these species as a single group and I will so treat them. Besides the species discussed by Horn, there has recently been described one by Fall<sup>3</sup> and I will add two, one of which is new, the other one long unrecognized.

The group may be characterized as containing species which are of fair or large size, black and shining; head not tuberculate; prothorax definitely narrowed behind, with a series of coarse punctures rather sparsely and irregularly placed on the disk, and with fine punctures between, the latter sometimes obscure, and with an entire lateral and basal marginal line; the elytra more or less oval, with humeri dentiform, and evidently striato-punctate; the apex of hind tibiae with equal or slightly unequal spinules and the first tarsal segment of hind legs quite long.

#### *Synoptic Key*

1. Apex of hind tibiae fimbriate with short equal spinules..... 2
- Apex of hind tibiae fimbriate with unequal spinules, clypeus emarginate at middle, broadly rounded each side..... 8
2. Clypeus angulate or dentate either side of emargination..... 3
- Clypeus emarginate at middle, broadly rounded each side..... 7
3. Clypeus distinctly dentate either side of emargination..... 4
- Clypeus merely angulate each side of emargination..... 6
4. Large species, 9 mm., clypeal emargination three-tenths width of head; prothorax subquadrate, sides almost parallel, base lobed at middle and sinuate either side; elytra oblong; first segment of hind tarsi longer than following three. Lassen County, California .....*gravis* Fall
- Moderate-sized species, 6-7 mm., clypeal emargination three-eighths width of head; first segment of hind tarsi about equal to next two..... 5
5. Prothorax subquadrate, sides slightly arcuate and narrowed behind, hind angles distinct but rounded, base slightly arcuate; elytra oblong, a third longer than broad. Lassen and east Siskiyou County, California.....*martini* sp. nov.
- Prothorax with sides gradually rounding into base, the hind angles almost obliterated, base arcuate; elytra oblong oval, not a third longer than broad. West Nevada.....*nevadensis* Horn
6. Elliptical yet broad, prothorax subquadrate; first segment of hind tarsi as long as next three. San Francisco Bay region to Placer County, California.....*gentilis* Horn

<sup>3</sup> Canad. Entom. 59 (1927), p. 137.

7. Clypeus feebly emarginate at middle, genæ but moderately prominent; larger pronotal punctures only moderately coarse, not numerous and in general confined to sides and basal area; elytra oblong, more than a third longer than broad, striæ well impressed and very distinctly and crenately punctured, intervals slightly convex especially at sides. Oregon and Washington.....*cribratus* Lec.
- . Clypeus distinctly emarginate at middle, genæ prominent; larger pronotal punctures very coarse, umbilicate, fairly numerous toward front as well as at sides and on basal area; elytra oblong, less than a third longer than broad, striæ finely impressed and very finely punctured, intervals flat except ninth and tenth. Lake County, California (probably also Sonoma County).....*cadaverinus* (Mann.)
8. Elytra oblong, striæ moderately deep and coarsely punctured, intervals slightly convex; first segment of hind tarsi as long as next three. Middle and southern California.....*sparsus* Lec.
- . Elytra oval, striæ fine but deep, finely punctured, intervals nearly flat on disk, slightly convex at sides; first segment of hind tarsi longer than next three. Fort Tejon, California.....*ovipennis* Lec.

### *Aphodius martini* Van Dyke, new species

Large, robust, black, antennæ and legs somewhat rufous, moderately shining and not pubescent above. Head without tubercles; occiput finely, rather closely punctured, a few coarse punctures laterally; clypeus finely punctured and rugose, anterior margin moderately emarginate at middle and acutely dentate each side of emargination, sides slightly arcuate; genæ moderately prominent and subacute. Prothorax almost a third broader than long, widest in front of middle; sides slightly arcuate, perceptibly narrowed posteriorly, hind angles evenly rounded, base arcuate, faintly sinuate laterally; basal margin deep, somewhat evanescent near angles; disk convex, sparsely and irregularly punctate with moderately coarse punctures at sides and basal area and with fine punctures intermixed. Elytra oblong oval, a third longer than broad, slightly narrowed at base, the humeri dentiform; disk convex, rather deeply striate, striæ moderately coarsely and closely punctured, intervals convex and very finely punctured. Wings greatly atrophied. Beneath sparsely punctate, the sides of abdomen rugose and pilose. Mesosternum coarsely punctured, obtusely carinate between the coxæ. Posterior femora sparsely, finely punctate; the hind margin of posterior tibiæ fimbriate with short equal spinules; first segment of hind tarsi equal to next two. Sexual characters not distinctive. Length, 6.5 mm.; breadth, 3 mm.

*Holotype* (No. 2546, Mus. Calif. Acad. Sci.), and several *paratypes* from a series of six specimens in the collection of the California Academy of Sciences, collected by Mr. J. O. Martin

at Martins Springs, Lassen County, California (Sec. 14, T. 31 N. R. 9 E.), September 7, 1922. There are also two other specimens collected at McCloud, California, October 15, 1918, and one from Susanville, Lassen County, California, May 2, 1923, all collected by Mr. Martin. These latter are somewhat smaller, depauperized, and have the prothorax and elytra both more narrowed at base; otherwise not different.

This species which has been confused with *Aphodius nevadensis* Horn, differs markedly from the latter by having a more quadrate prothorax with larger punctures finer and sparser; a different shaped clypeus, narrower and with sides more arcuate; as well as by having the elytra less narrowed at base and the striae more coarsely punctured. It superficially more closely resembles *gentilis* Horn but, aside from the clypeal differences, has much finer pronotal punctures, is narrower and generally less robust, the elytra of *gentilis* not being a third longer than broad, less narrowed at base, and with the humeri much more evidently dentate than in either of the preceding. The first tarsal segment of the hind legs is also evidently longer in *gentilis*.

#### APHODIUS CADAVERINUS (Mann.)

I have in my collection a specimen of *Aphodius* which I consider to be the true *cadaverinus*<sup>4</sup> of Mannerheim. It was taken by me in May 1895, near Clear Lake, Lake County California, which is in the same zoögeographical region as Fort Ross, Sonoma County, one of the few places where Eschscholtz collected in California. This species, as Horn states, is no doubt one of the members of his Group G. All of the species listed by me in the preceding table with the exception of *gentilis* Horn, *sparsus* Lec., and the one that I consider *cadaverinus* (Mann.), are restricted to regions which were not visited by Eschscholtz nor by any of the early Russian collectors who supplied the material upon which Mannerheim based his descriptions. None of these species, either, will fit the description, inadequate though it is. Of the three exceptions, *sparsus* Lec. is ruled out by being restricted to the nests of the wood rat, *Neotoma*, and never found as stated in "Trogium instar in cadaveribus exsiccatis," besides it has not the pronotal punctua-

<sup>4</sup> *Oxyomus cadaverinus* Mann., Bul. Nat. Hist. Soc. Moscow 16 (1843), p. 261.

tion sufficiently coarse to be called variolate, "thorace antierius dilatato varioloso." *Gentilis* Horn does possess the latter character and is to be found under conditions as given for *cadaverinus* (Mann.), but it possesses a type of clypeal emargination which I think Mannerheim would hardly be inclined to describe as "clypeo profunde emarginato." The true *cribratus* Lec. which Horn also lists from California but which I doubt, might possibly be taken for *cadaverinus* (Mann.), but its clypeus is only shallowly emarginate, not profoundly so, and its pronotal punctuation though coarse, not truly variolate. The species, however, which I take to be *cadaverinus* (Mann.), is closely related to *cribratus* Lec., possibly what Horn had seen from California and took to be the same, but it differs decidedly from that by being much broader and more generally robust, with clypeal emargination pronounced, the genæ also more prominent and acute, the pronotal punctures very large and variolate, and the elytral intervals flatter. With the description of *cadaverinus* as given by Mannerheim, it agrees absolutely.

Of the species mentioned above, *gravis* Fall and *sparsus* Lec. have fully developed and functional wings. The first was found by Mr. J. O. Martin high up in the cavity of an old dead tree in what was presumably the nest of a squirrel or rodent of some kind. The second species is always to be found in the upper layers of the manure of wood rats' nests, whether placed well up in the trees or on the ground. All of the other species have the wings much reduced and, so far as I know, have always been found either under cow manure, in old cow yards or under dead herbivorous animals. *Sparsus* is fairly common but all of the other species are very rare.

#### *Aphodius slevini* Van Dyke, new species

Small, robust, shining, rufotestaceous, elytra, abdomen and femora testaceous. Head evidently but not markedly trituberculate, the median tubercle vague, occiput moderately coarsely punctured; clypeus slightly gibbous at middle, rugose-punctate, anterior margin rather deeply emarginate, with a distinct though short denticle on each side of emargination which is turned upward, sides feebly sinuate, genæ rounded and not prominent. Prothorax one-fourth broader than long, sides feebly arcuate and gradually narrowing to front, margin not explanate, scarcely fimbriate, hind angles obtusely rounded, base regularly arcuate and with fine marginal line; disk quite convex, sparsely punctured with coarse and fine punctures

intermixed, the punctures coarser and closer laterally. Elytra one-fourth longer than broad, as wide at base as prothorax, the humeri obtuse, sides feebly arcuate; disk quite convex, finely striato-punctate, intervals flattened and with a few minute punctures. Body beneath sparsely punctate, the abdomen alutaceous. Mesosternum not carinate. Anterior tibiæ smooth in front, tridentate externally, first segment of tarsus shorter than second. Posterior femora with a few vague punctures near knee, the tibiæ with hind margins fimbriate with short unequal spinules, the first tarsal segment slightly longer than the following two. Length, 4 mm.; breadth, 2 mm.

*Holotype* (No. 2547, Mus. Calif. Acad. Sci.), a unique female, collected by Mr. L. S. Slevin, at **Carmel, Monterey County, California**, November 15, 1915, and now in the Slevin collection of the California Academy of Sciences.

This interesting little species which because of its robustness has somewhat the facies of an *Aegialia*, would come in the series 1-C of Horn's paper after *militaris* Lec. and *æmulus* Horn, from both of which it differs by its more testaceous color, smaller size and greater robustness, rugose clypeus, and double type of pronotal punctuation.

#### **Atænius cribratus** Van Dyke, new species

Form elongate, parallel, but moderately convex, rufopiceous, beneath lighter and more rufous, antennæ and palpi rufotestaceous, slightly shining. Head coarsely, densely punctured posteriorly; clypeus rugulose, anterior margin broadly and distinctly emarginate, a distinct angulation or minute denticle each side, sides arcuate, genæ moderately prominent and obtuse. Prothorax about one-third broader than long, slightly narrower posteriorly, sides feebly arcuate, hind angles rounded, base arcuate, basal marginal line distinct, lateral and basal margins crenulate and finely fimbriate; disk moderately convex, with slight depression near anterior angles, coarsely, closely and cribrately punctured, finer in front. Elytra as wide as prothorax, humeri markedly dentiform, sides nearly parallel, striæ deep and narrow, finely obscurely punctured, intervals broad and subcarinate, their sides obliquely declivous, with a row of pronounced punctures on either side close to striæ, the margins as a result slightly crenulate. Mesosternum opaque, finely punctate-granulate, carinate between the coxæ. Mesosternum coarsely, sparsely punctured at middle, more rugose and finely at the sides. Abdomen coarsely punctured throughout. Anterior tibiæ tridentate externally and feebly crenate above. Posterior femora sparsely, rather coarsely punctate, with at most a feeble trace of a marginal line near the knee; posterior tibiæ without accessory spinule; the first tarsal segment about equal in length to the long spur. Length, 4 mm.; breadth, 1.8 mm.

*Holotype* (No. 2548, Mus. Calif. Acad. Sci.), collected by Mr. J. O. Martin, July 29, 1924, at **San Xavier Mission**, near Tucson, **Arizona**. Three *paratypes* taken at the same time and place by Mr. E. P. Van Duzee, in the collection of the California Academy of Sciences.

This interesting species should be placed before *Atænius abditus* Hald. where it would run in Horn's table. It differs from this by being larger, by having the pronotal punctures coarser and closer, the elytral striæ not distinctly punctured as in *abditus* but with the pronounced punctures on the flanks of the intervals. It is not closely related to any of our species, but is no doubt near *Atænius sculptifrons* Bates but differs in lacking the longitudinal rugæ of the forehead and the smooth impressed line on the pronotum.

#### **Atænius carolinus** Van Dyke, new species

Small, elliptical, slightly elongate, moderately convex, black, front of head, tibiæ, and tarsi rufous, antennæ and palpi rufotestaceous. Head moderately convex; occiput rather coarsely, closely punctured; front and clypeus impunctate, subopaque, clypeal margin broadly, somewhat triangularly emarginate, an acute denticle, somewhat elevated at apex, on each side, the sides but slightly arcuate; genæ moderately prominent, obtuse. Prothorax about one-fifth broader than long, sides feebly arcuate, apex just perceptibly narrower than base, hind angles obtuse and rounded; base arcuate at middle, faintly sinuate at sides, basal margin neither crenulate nor fimbriate; disk rather coarsely, not closely punctured at middle, more densely and closely at sides, the punctures finer anteriorly. Elytra elongate oval, one-third longer than broad, the base as wide as base of prothorax; humeri indistinctly dentate, sides slightly arcuate; disk deeply striate, the striæ distinctly crenulately punctured, intervals convex, slightly flattened near suture. Mesosternum opaque, densely and finely punctured, a slight carina between the coxæ. Metasternum coarsely, not closely punctured. Abdomen feebly shining, impunctate except along anterior border where it is punctate-crenate. Anterior tibiæ acutely tridentate externally, slightly crenate above. Posterior femora smooth, the posterior marginal line evident near knee, vague at middle; tibiæ with accessory spinule a mere dentation; first tarsal segment about equal to the long spur. Length, 2.75 mm.; breadth, 1.50 mm.

*Holotype* (No. 2549, Mus. Calif. Acad. Sci.), and one *paratype* collected by myself in the **Black Mountains of North Carolina**, June 1901.

This very small species somewhat suggests a diminutive

*A. cylindricus* Horn, but lacks the close pronotal punctuation and complete marginal line to posterior femora. Being without a well-defined accessory spinule to hind tibiæ and without a deep and complete marginal line to the posterior femora, it would come near *abditus* Hald. in Horn's table of species. It might best fit in just before *desertus* Horn.

#### *Atænius semipilosus* Van Dyke, new species

Slightly elongate, elliptical, moderately convex, dark rufous, legs lighter, antennæ and palpi rufotestaceous. Head moderately convex, occiput rather finely, sparsely punctured; front smooth, sides of clypeus obscurely rugose, clypeal margin broadly emarginate, obtusely, not sharply arcuate; genæ moderately prominent, obtuse. Prothorax less than one-third broader than long, slightly narrowed in front; sides moderately arcuate, hind angles obtuse and rounded; base evenly arcuate, basal marginal line distinct, lateral and basal margin finely fimbriate, not crenulate; disk coarsely, not closely punctured, finer in front. Elytra elongate oval, three-sevenths longer than broad; base slightly narrowed and narrower than base of prothorax, humeri inconspicuously dentate; sides moderately arcuate; disk deeply striate, the striæ finely, not closely punctured, intervals very convex and with a series of fine but distinct punctures on each side, close to the striæ, from which arise rather short and fine erect setæ, less evident near base (probably abraded). Mesosternum opaque, densely and finely punctured, a slight carina between the coxæ. Metasternum coarsely and sparsely punctured, more shallowly laterally. Abdomen coarsely and sparsely punctured, punctures finer at middle. Anterior tibiæ acutely tridentate externally, obscurely crenate above. Posterior femora smooth, the posterior marginal line absent; tibiæ with distinct accessory spinule; first tarsal segment as long as the following four segments but slightly shorter than the long spur. Length, 3.25 mm.; breadth, 1.15 mm.

*Holotype* (No. 2550, Mus. Calif. Acad. Sci.), a single specimen, collected by Prof. W. M. Wheeler at **Texas Pass, Dragon Mountains, Arizona**, July 19, 1917, and kindly presented to me. A second specimen, somewhat injured, collected by Mr. C. T. Dodds at Los Mochis, Sinaloa, Mexico, June 1922, is in the California Academy collection. This latter I will designate as a paratype.

This species superficially looks much like *Atænius desertus* Horn, and the second specimen was mixed with a series of these. The single type of pronotal punctuation and the presence of a distinct accessory spinule will, however, readily separate this from *desertus*. Structurally, this species is very close to



*Atenius hirsutus* Horn, but it differs by being smaller, rufous not piceous, by having the sides of the clypeal emargination angulate not rounded, the pronotal punctuation not of the double type, and the elytra less densely pilose. In Horn's table it would come perhaps best, just before *læviventris* Horn.

#### ACOMA Casey

This genus<sup>5</sup> was established by Colonel Casey for the reception of a single species, *brunnea* Casey, and the characterization was, therefore, limited by this species. In the collection of the California Academy of Sciences there are two other species which are undoubtedly congeneric with *brunnea* but which differ in several features such as the clypeus and antennæ. Inasmuch as these structures were used in the generic description, this will now have to be somewhat modified. All of the specimens of *Acoma* which I have seen, and I have seen many *brunnea*, are males, and most of these have been taken at light. From this I am inclined to believe that the females are either wingless or are very limited in their activities as is the case with *Pleocoma*, near which they are now rightfully placed. The finding of two other species of *Acoma* in Lower California also throws some light on their distribution and seems to indicate that this genus and probably also *Pleocoma* came from the south and that we will have to look to either Central or South America, probably the west coast, for the more generalized relatives of these.

#### Synoptic Key

1. Antennal club of male formed of five lamellæ; clypeus very broadly margined and reflexed, rufopiceous; length 8-10 mm.  
.....*robusta* sp. nov.
- Antennal club of male formed of but three lamellæ; clypeus but moderately margined and reflexed..... 2
2. Prothorax with sides almost parallel posteriorly, gradually convergent forward; elytral striæ not sharply defined, rufopiceous; length 6-6.5 mm.....*confusa* sp. nov.
- Prothorax with sides broadly, somewhat angulately arcuate, broadest at middle; elytral striæ always more or less distinctly defined, rufocastaneous; length 5.5-7 mm.....  
.....*brunnea* Casey

#### *Acoma robusta* Van Dyke, new species

Large, robust, elongate, the sides nearly parallel, quite convex, shining; front and side margins of prothorax, elytra, legs, and under-

<sup>5</sup> Anns. N. Y. Acad. Sci. V (February 1890), p. 165.

side clothed with rather long fulvous hair, the body rufopiceous. Head with occiput smooth; front rugose and opaque above, punctate-rugose in front and slightly concave; clypeus with a very broad and reflexed margin extending back to eyes, the anterior edge slightly emarginate, the sides oblique and almost straight, parallel in front of eyes; antennæ with the club formed of five long lamellæ. Prothorax three-fourths as long as broad, broadest at middle, apex deeply emarginate, front angles prominently projecting and subacute; sides sinuate just behind anterior angles, thence arcuate to base which is two-sevenths broader than apex and moderately arcuate, hind angles obtusely rounded; base finely margined, apex more broadly so; disk rather coarsely, somewhat closely punctured, a smooth longitudinal area at middle and an inconspicuous callosity near middle of sides. Scutellum impunctate except in front where vaguely punctured. Elytra one-fourth longer than broad, just perceptibly widest at middle, moderately narrowed posteriorly; humeri slightly prominent and well rounded; disk with striæ distinctly impressed, fairly well defined above, interrupted and less distinctly defined at sides, irregularly punctured, the striæ slightly convex, third and fifth somewhat narrower, smoother and more elevated, the others broader, flatter and irregularly coarsely punctured; the rather long, semirecumbent hairs arising from both strial and interstrial punctures. Beneath rather coarsely, closely punctured at sides, smoother and more finely and sparsely punctured at middle and clothed with long silky hair. Length, 10 mm.; breadth, 4.5 mm.

*Holotype* (No. 2551, Mus. Calif. Acad. Sci.), collected by Prof. G. F. Ferris at **Triumfo, Dist. Sur., Lower California**, July 8, 1919, and four *paratypes* taken by Mr. J. R. Slevin at La Paz, Lower California, June 28, 1919.

This large and robust species is easily distinguished from *brunnea* not only by its greater size, but by its more pronounced convexity, piceous brown color, antennæ with five segmented club, and coarser punctuation of upper surface.

#### ***Acoma confusa* Van Dyke, new species**

Rather small, slightly elongate, subparallel, moderately convex, shining; front and sides of prothorax, elytra, legs and underside clothed with moderately long grayish pile, the body rufopiceous. Head with occiput (generally concealed) smooth; front rugose and opaque, flattened; clypeus concave at base, with a moderately broad and reflexed margin, the apical margin acutely (holotype) or moderately (paratype) emarginate, the sides oblique and but slightly arcuate to eyes; antennæ with the club formed of three long lamellæ. Prothorax one-third broader than long; apex moderately emarginate; front angles moderately prominent, hardly projecting forward and subacute; sides almost straight and obliquely diverging from front

angles to middle, quite parallel behind; base one-third broader than apex and moderately arcuate, hind angles obtusely rounded; base and apex finely margined; disk distinctly and rather finely, not closely punctured; a smooth longitudinal area at middle, with a finely impressed line at basal two-thirds and an inconspicuous callosity near middle of sides. Scutellum impunctate and slightly sulcate. Elytra two-sevenths longer than broad, widest at middle, gradually narrowed posteriorly; humeri slightly prominent and rounded; disk with striæ not distinctly defined, the strial and interstrial punctures rather coarse, close, and somewhat irregularly scattered, the surface also somewhat rugose, with moderately long semi-erect hairs arising from each puncture. Beneath rather coarsely, closely punctured and clothed with rather long cinereous hair. Length, 6 mm.; breadth, 2.5 mm.

*Holotype* (No. 2552, Mus. Calif. Acad. Sci.), collected by Mr. E. P. Van Duzee at Coronados Island, Gulf of California, May 18, 1921. One *paratype* (somewhat crushed) collected by Mr. I. M. Johnston at Loreto, Lower California, May 20, 1921.

This small species is about the size of one of the smaller *brunnea*, and has the same three-segmented antennal club, though the lamellæ composing it are but two-thirds the length of those in *brunnea*. It also differs by having the clypeus more narrowed in front, the prothorax more narrowed, with sides not rather evenly arcuate, the discal punctuation coarser and slightly more numerous, the elytra less regularly sculptured, and the color, as in the preceding species, a reddish brown, not rufocastaneous. The name *brunnea* is rather unfortunate, for the species which bears it is the only species of the three which is not truly brown.

#### AMPHICOMA Latr.

Field observations continued for a long series of years, seems to prove that we have but four good species of *Amphicoma* in this country: *lupina* (Lec.) and *vulpina* Hentz., the two eastern species; and *ursina* (Lec.) and *rathvoni* (Lec.), the two Pacific species. The two eastern species seem to be fairly stable as to color, but our two Pacific species are decidedly unstable, both being dichromatic as well as variable otherwise. The well-known *ursina* (Lec.) of the San Francisco sand dunes is usually a yellowish gray, but every now and then an absolutely black phase is to be found, flying and mating with the others. The other species, which is generally to be found about the sandy margins of lakes and streams, is normally dichromatic,

the black and lighter phases being found in about equal numbers. In middle California as in Napa and Sonoma counties, the true *rathvoni* (Lec.) is generally, I might say always, associated with typical *canina* (Horn). In the Sierras and in southern California, the subspecies *edwardsi* (Horn) replaces *rathvoni*, but as in the north, is associated there with *canina*. *Cooperi* (Horn) is more of a subspecies than a color phase, for it as a rule replaces *canina* in certain localities. I might also state that the black phases, *rathvoni* and *edwardsi*, as well as the light phases, *canina* and *cooperi*, may be of either sex. They also all vary considerably as to minor details of coloration in different regions.

### *Glaresis clypeata* Van Dyke, new species

Moderately robust, somewhat elongate and subparallel, reddish brown. Head convex, front obscurely tuberculate, not impressed; clypeus with anterior margin truncate and distinctly serrate, the sides projecting obliquely outward, and obliquely truncate and serrate at apex, the galæ prominent, lobed and with margins indistinctly crenulate; the mandibles not sinuate externally. Prothorax about a fourth broader than long, sides almost straight and slightly converging forward to rounded front angles, lateral margin crenulate; disk with apical marginal groove wanting, median groove present though faint, no other discal impressions, the linear, granular tubercles numerous and distinct though minute. Elytra with striæ broad and distinctly though shallowly impressed and coarsely, rather closely punctured, the intervals well elevated, subcostiform and with the usual line of short, suberect setæ. Outer apical angle of middle tibiæ prominent and acute; outer margin of hind tibiæ but slightly emarginate before the apex. Length, 4.75 mm.; breadth, 2.25 mm.

*Holotype* (No. 2553, Mus. Calif. Acad. Sci.), a unique, collected by myself at **Carrville, Trinity County, California**, June 7, 1913.

This very distinct species would run in Fall's synoptic table<sup>6</sup> of *Glaresis*, to *phœnicis* Fall. It is, however, much larger than *phœnicis*, as large as *ecostata* Fall, has the elytral striæ more distinctly punctured, the clypeus with a well-marked serrate margin, simple in the other, and the mandibles not toothed externally. I find the small spine of the hind trochanter as mentioned by Fall, but no spiniform teeth near the middle of the posterior-superior margin of the hind femora.

<sup>6</sup> Psyche 14 (1907), p. 25.